

**09/733,392 & 90/005,710**

**10/26/05 RCE**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

## COMBINED PROCEEDING

For U.S. Patent No. 5,846,435

### In the Re-issue application of Haase

Serial No. 09/733,392

**Filed December 7, 2000**

### In the Re-exam application of Haase

Control No. 90/005,710

**Filed April 24, 2000**

**Title: Method for Dewatering Sludge**

www.pearsoned.com

**EXAMINER: Chester Barry**

**Group Art Unit 1724**

## Patent Owners Docket

**for Re-issue: 27410/002RI**

**for Re-Exam: 27410/002RX**

### 3'rd Party Requester's Docket:

RE-US 5846435

**Mail Stop RCE**

**The Honorable Commissioner for Patent and Trademarks**

USPTO

P.O. Box 1450

Alexandria, VA 22313-1450

By facsimile 571.273.8300

# TRANSMITTAL LETTER

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2. Form US PTO 2038 in order to process a credit card payment of \$395 as the required fee for filing an RCE, small entity status. (1 page);

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**December 16, 2005**

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09/733,392 & 90/005,710


10/26/05 RCE

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**December 16, 2005**  
Date of Mailing

  
Richard A. Haase

**Respectfully submitted,**

**Date: December 16, 2005**

Richard A. Haase  
4402 Ringrose Drive  
Missouri City, Texas 77459

Telephone: 281-261-9543  
Facsimile: 281-261-6505  
Richard.haase@clearvalue.com

  
Richard A. Haase, Pro Se' Applicant

PTO-2038 (12-2005)

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RCE Fee, small entity status

☒ Patent Fee☐ Patent Maintenance Fee☐ Trademark Fee☐ Other Fee**Application No.**

09/733,392

**Application No.****Application No.****IDON Customer No.****Patent No.****Patent No.****Registration No.****Attorney Docket No.**2740/  
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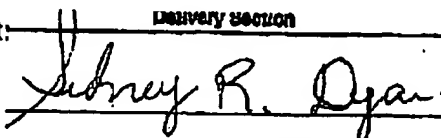
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THE STAMP OF THE US PATENT OFFICE PLACED HEREON, ACKNOWLEDGES RECEIPT OF:

Applicant: Haase, Richard A.

Title: Method for dewatering Sludge

Serial Number: 09/733,392 - 90/005,710 Date Mailed: October 27, 2005 Docket No.: CY-002 RX/RI

- ☒ Transmittal Letter (2 pages);
- ☒ RCE (24 pages);
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09/733,392 & 90/005,710

**10/26/05 RCE**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

## COMBINED PROCEEDING

For U.S. Patent No. 5,846,435

### In the Re-issue application of Haase

Serial No. 09/733,392

**Filed December 7, 2000**

### In the Re-exam application of Haase

Control No. 90/005,710

Filed April 24, 2000

**Title: Method for Dewatering Sludge**

**THE UNIVERSITY OF CHICAGO**

**EXAMINER: Chester Barry**

**Group Art Unit 1724**

## Patent Owners Docket

**for Re-issue: 27410/002RJ**

**for Re-Exam: 27410/002RX**

**3'rd Party Requester's Docket:**

RE-US 5846435

Attn. Mr. Dwayne Smith, Art Group 1724  
Mail Stop RCE  
The Honorable Commissioner for Patent and Trademarks  
USPTO  
P.O. Box 1450  
Alexandria, VA 22313-1450

By facsimile 571.273.1166

## TRANSMITTAL LETTER

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1. Transmittal Letter (3 pages);
2. Request for Continued Examination (24 pages);
3. Copy of form US PTO 2038 in order to process a credit card payment of \$395, wherein said credit card information has been blacked out of this copy only, along with proof of transmission of form PTO - 2038 to 571.273.8300 – NOTE, there was no fax-back from USPTO (4 pages);
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09/733,392 &amp; 90/005,710

10/26/05 RCE

**Mr. Smith – This is a merged proceeding. There are two copies being faxed. Please place one copy in file Serial No. 09/733,392 and one copy in file Control No. 90/005,710. Thank you.**

Applicant previously filed the attached RCE on 10/26/05. Since, as of 11/23/05 said RCE was not entered into the subject application files, Applicant again filed the attached RCE on 11/23/05. As of 12/16/05 neither RCE has been entered into the subject application files. Applicant appreciates the interest of SPE Dwayne Smith to personally enter the attached RCE. In order to remit the \$395 fee for an RCE, Applicant is sending the attached request for credit card payment to the USPTO under separate cover, facsimile transmission to 571.273.8300.

Claims as Amended					
	Claims Remaining After RCE	Highest # Previously Paid For	Number of Extra Claims Present	Rate	Additional Fee
Total Claims	56	67	-11	N/A	\$0.00
Independent Claims	8	9	-1	N/A	\$0.00
Multiple Independent Claims					Previously Paid
Total Fee Due					\$0.00

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**December 16, 2005**

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Richard A. Haase

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Applicant is very appreciative of Mr. Dwayne Smith to make this entry.

**Respectfully submitted,**

**Date: December 16, 2005**



Richard A. Haase, Pro Se' Applicant

Richard A. Haase  
4402 Ringrose Drive  
Missouri City, Texas 77459

Telephone: 281-261-9543  
Facsimile: 281-261-6505  
Richard.haase@clearvalue.com

**09/733,392 & 90/005,710**

**10/26/05 RCE**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

## COMBINED PROCEEDING

For U.S. Patent No. 5,846,435

### In the Re-issue application of Haase

Serial No. 09/733,392

Filed December 7, 2000

### In the Re-exam application of Haase

Control No. 90/005,710

Filed April 24, 2000

**Title: Method for Dewatering Sludge**

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**EXAMINER: Chester Barry**

**Group Art Unit 1724**

## Patent Owners Docket

**for Re-issue: 27410/002RI**

**for Re-Exam: 27410/002RX**

### 3'rd Party Requester's Docket:

RE-US 5846435

**Attn. Mr. Dwayne Smith  
Mail Stop RCE  
The Honorable Commissioner for Patent and Trademarks  
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**RCE**

**Please do not enter the Amendment after Final.**

**Please enter this Request for Continued Examination as required under 37 CFR 1.114.**

**This is a merged proceeding. Applicant is providing 2 copies of this RCE; please place one copy into the file for 09/733,392 and one copy into the file for 90/005,710.**

Under separate cover and by Express Mail, Applicant is sending a request for the US PTO to make a credit card debit for \$395.00 in order to cover the fee for an RCE, small entity status.

09/733,392 &amp; 90/005,710

10/26/05 RCE

**Marked-up Set of Claims (According to 37 CFR 1.173(b)(2))**

1. (Seven times amended) A method for dewatering biological sludge [that has been digested by] from a thermophilic digestion process, comprising:

a. adding a polymeric quaternary ammonium compound[s], as primary component, to the biological sludge; and

b. adding a polyacrylamide to the biological sludge;

such that any combination[s] of the polymeric quaternary ammonium compound[s] and of the polyacrylamide[s] enhance dewatering of the sludge.

2. (Seven times amended) The method for dewatering biological sludge according to claim 1, wherein the polymeric quaternary ammonium compound[s] is[are from] di-allyl di-methyl ammonium chloride (DADMAC)[ family].

3. (Eight times amended) The method for dewatering biological sludge according to claim 1, wherein the polymeric quaternary ammonium compound[s] is[are from] epichlorohydrin di-methyl amine (epi-DMA)[ family].

4. (Three times amended) The method for dewatering biological sludge according to claim 1, wherein the polymeric quaternary ammonium compound is added directly to the sludge; and \_\_\_\_\_  
\_\_\_\_\_, upon]following the formation of microflocs of the sludge from addition of the polymeric quaternary ammonium compound, a cationic polyacrylamide is added[ to form a floc that dewateres the sludge].

5. (Three times amended) The method for dewatering biological sludge according to claim 4, wherein the polymeric quaternary ammonium compound and the cationic polyacrylamide are in an approximate[ly] 1:1 ratio, with the cationic polyacrylamide having a higher molecular weight than the polymeric quaternary ammonium compound[ does].



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6. (Three times amended) The method for dewatering biological sludge according to claim 4, wherein the ratio[s] of [the ]polymeric quaternary ammonium compound with respect to [the ]cationic polyacrylamide range from about 1:10 to about 20:1.

7. (Twice amended) The method for dewatering biological sludge according to claim 4, wherein the polymer concentration to solids ratio of total polymer dosage requirement in relationship to percentage of solids component of the sludge is between about 50 ppm:1 percent and about 300 ppm:1 percent.

8. (Twice amended) The method for dewatering biological sludge according to claim 1, wherein the polymeric quaternary ammonium compound is added directly to the sludge, in an amount sufficient to cause formation of a cationic overcharge within a developed microfloc system, and wherein  
the polyacrylamide is[and an] anionic[ polyacrylamide is then added for final floc formation].

9. (Cancelled)

10. (Three times amended) The method for dewatering biological sludge according to claim 8, wherein the polymeric quaternary ammonium compound and the anionic polyacrylamide are in a approximate[ly] 10:1 ratio, with the anionic polyacrylamide having a higher molecular weight than the polymeric quaternary ammonium compound[ does].

11. (Original) The method for dewatering biological sludge according to claim 10, wherein the anionic polyacrylamide is about 40% anionic.

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12. (Three times amended) The method for dewatering biological sludge according to claim 8, wherein the ratio[s] of the polymeric quaternary ammonium compound to the anionic polyacrylamide ranges from about 1:10 to about 20:1.

13. (Three times amended) The method for dewatering biological sludge according to claim 8, wherein the polymer concentration to solids ratio of total polymer dosage requirement in relationship to percentage of solids component of the sludge is between approximately 50 ppm:1 percent and approximately 300 ppm:1 percent.

14. (Original) The method for dewatering biological sludge according to claim 1, wherein the biological sludge is mixed with primary sludge.

15. (Eight times amended) [A composition]The method for dewatering biological sludge according to claim 1, [comprising] wherein:

said polymeric quaternary ammonium compound[s, as primary component, and] is added along with a cationic polyacrylamide; and

said polymeric quaternary ammonium compound and cationic polyacrylamide[components being] are present [in the composition in a ratio ]to enable dewatering of the biological sludge[the composition to function as an agent for dewatering biological sludge from a thermophilic digestion process].

16. (Seven times amended) The method for dewatering biological sludge according to claim 1, wherein the polyacrylamide and the polymeric quaternary ammonium compound[s are]is [used]added in solution [or in dry] form.

17. (Cancelled)

18. (Cancelled)

09/733,392 &amp; 90/005,710

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19. (Three times amended) The method of claim 1, wherein said polyacrylamide is cationic or anionic.

20. (Cancelled)

21. (Cancelled)

22. (Three times amended) A method for dewatering a sludge comprising water and solids, wherein the solids comprise thermophiles, the method comprising:  
\_\_\_\_\_ contacting the sludge according to a technique selected from a group of techniques including:  
\_\_\_\_\_ contacting the sludge with a polymeric quaternary ammonium compound along with a cationic polyacrylamide; and  
\_\_\_\_\_ contacting the sludge first with a polymeric quaternary ammonium compound and then with a cationic polyacrylamide;  
\_\_\_\_\_ to form a floc.

23. (Cancelled)

24. (Three times amended) The method of claim 22, wherein said polymeric quaternary ammonium compound comprises a polymeric quaternary ammonium compound having a molecular weight in the range of about 500,000 to about 3,000,000, and said cationic polyacrylamide comprises a cationic polyacrylamide having a molecular weight in the range of about 5,000,000 to about 15,000,000.

25. (Twice amended) The method of claim 22, wherein said polymeric quaternary ammonium compound is added in an amount sufficient to form microflocs of said thermophiles; and wherein  
\_\_\_\_\_ said cationic polyacrylamide is added in an amount sufficient to agglomerate the microflocs into flocs for dewatering.

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26. (Four times amended) The method of claim 22, wherein said polymeric quaternary ammonium compound comprises at least one compound selected from the group consisting of di-allyl di-methyl ammonium chloride and epichlorohydrin di-methyl amine.

27. (Twice amended) The method of claim 25, wherein the ratio of said polymeric quaternary ammonium compound to said cationic polyacrylamide is in the range of about 1:10 to about 20:1.

28. (Three times amended) The method of claim 25, wherein the concentration of said polymeric quaternary ammonium compound and said cationic polyacrylamide to the percentage of solids in said sludge is in the range of about 50 ppm:1 percent to about 300 ppm:1 percent.

29. (Canceled)

30. (Canceled)

31. (Canceled)

32. (Canceled)

33. (Twice amended) A method for dewatering a sludge comprising water and thermophiles, the method comprising:

adding to the sludge a polymeric quaternary ammonium compound.

34. (Four times amended) The method of claim 33, wherein said polymeric quaternary ammonium compound comprises a polymeric quaternary ammonium compound having a molecular weight of greater than about 5,000,000.

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35. (Three times amended) The method of claim 33, wherein said polymeric quaternary ammonium compound is added in an amount sufficient to form microflocs of the thermophiles.

36. (Four times amended) The method of claim 35, wherein said polymeric quaternary ammonium compound comprises at least one compound selected from the group consisting of di-allyl di-methyl ammonium chloride and epichlorohydrin di-methyl amine.

37. (Three times amended) The method of claim 35, wherein the concentration of said polymeric quaternary ammonium compound to the percentage of solids in said sludge is in the range of about 50 ppm:1 percent to about 300 ppm:1 percent.

38. (Four times amended) The method of claim 35, wherein said polymeric quaternary ammonium compound is added in an amount sufficient to cause formation of said thermophiles into a developed microfloc system having a cationic overcharge, and wherein an anionic polyacrylamide is added for final floc formation.

39. (Cancelled)

40. (Three times amended) The method of claim 38, wherein the concentration of said polymeric quaternary ammonium compound to the percentage of solids in said sludge is in the range of about 50 ppm:1 percent to about 300 ppm:1 percent.

41. (Three times amended) A sludge composition comprising:  
water;  
polyacrylamide comprising a cationic or an anionic moiety;  
a polymeric quaternary ammonium compound; and  
solids comprising thermophiles.

42. (Cancelled)

09/733,392 &amp; 90/005,710

10/26/05 RCE

43. (Cancelled)

44. (Four times amended) The sludge composition of claim 41, wherein said polymeric quaternary ammonium compound comprises at least one compound selected from the group consisting of di-allyl di-methyl ammonium chloride and epichlorohydrin di-methyl amine.

45. (Three times amended) The sludge composition of claim 41, wherein the ratio of said polymeric quaternary ammonium compound to said polyacrylamide is in the range of about 1:10 to about 20:1.

46. (Three times amended) The sludge composition of claim 41, wherein the concentration of said polymeric quaternary ammonium compound and said polyacrylamide to the percentage of solids in said sludge is in the range of about 50 ppm:1 percent to about 300 ppm:1 percent.

47. (Three times amended) The sludge composition of claim 41, wherein said polymeric quaternary ammonium compound comprises a polymeric quaternary ammonium compound having a molecular weight in the range of about 500,000 to about 3,000,000, and said polyacrylamide comprises a polyacrylamide having a molecular weight in the range of about 5,000,000 to about 15,000,000.

48. (Three times amended) A sludge composition comprising:  
water;  
polyacrylamide comprising a cationic or an anionic moiety;  
a polymeric quaternary ammonium compound; and  
solids comprising microflocs of thermophiles.

49. (Cancelled)

09/733,392 &amp; 90/005,710

10/26/05 RCE

50. (Cancelled)

51. (Four times amended) The sludge composition of claim 48, wherein said polymeric quaternary ammonium compound comprises at least one compound selected from the group consisting of di-allyl di-methyl ammonium chloride and epichlorohydrin di-methyl amine.

52. (Three times amended) The sludge composition of claim 48, wherein the ratio of said polymeric quaternary ammonium compound to said polyacrylamide is in the range of about 1:10 to about 20:1.

53. (Three times amended) The sludge composition of claim 48, wherein the concentration of said polymeric quaternary ammonium compound and said polyacrylamide to the percentage of solids in said sludge is in the range of about 50 ppm:1 percent to about 300 ppm:1 percent.

54. (Three times amended) The sludge composition of claim 48, wherein said polymeric quaternary ammonium compound comprises a polymeric quaternary ammonium compound having a molecular weight in the range of about 500,000 to about 3,000,000, and said polyacrylamide comprises a polyacrylamide having a molecular weight in the range of about 5,000,000 to about 15,000,000.

55. (Three times amended) A sludge composition comprising:  
water;

polyacrylamide comprising a cationic or an anionic moiety;

a polymeric quaternary ammonium compound; and

solids comprising an agglomeration of microflocs of thermophiles.

56. (Cancelled)

09/733,392 &amp; 90/005,710

10/26/05 RCE

57. (Cancelled)

58. (Four times amended) The sludge composition of claim 55, wherein said polymeric quaternary ammonium compound comprises at least one compound selected from the group consisting of di-allyl di-methyl ammonium chloride and epichlorohydrin di-methyl amine.

59. (Three times amended) The sludge composition of claim 55, wherein the ratio of said polymeric quaternary ammonium compound to said polyacrylamide is in the range of about 1:10 to about 20:1.

60. (Three times amended) The sludge composition of claim 55, wherein the concentration of said polymeric quaternary ammonium compound and said polyacrylamide to the percentage of solids in said sludge is in the range of about 50 ppm:1 percent to about 300 ppm:1 percent.

61. (Three times amended) The sludge composition of claim 55, wherein said polymeric quaternary ammonium compound comprises a polymeric quaternary ammonium compound having a molecular weight in the range of about 500,000 to about 3,000,000, and said polyacrylamide comprises a polyacrylamide having a molecular weight in the range of about 5,000,000 to about 15,000,000.

62 – 66. (Cancelled)

67. (Amended) A sludge composition comprising:  
water;  
thermophiles; and  
a polymeric quaternary ammonium compound.



09/733,392 &amp; 90/005,710

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68. (Four times amended) The sludge composition of claim 67, wherein said polymeric quaternary ammonium compound comprises at least one compound selected from the group consisting of di-allyl di-methyl ammonium chloride and epichlorohydrin di-methyl amine.

69. (Twice amended) The sludge composition of claim 67, wherein said polymeric quaternary ammonium compound is present in an amount sufficient to form microflocs of said thermophiles.

70. (Twice amended) The sludge composition of claim 67, wherein said polymeric quaternary ammonium compound is present in an amount sufficient to cause formation of said thermophiles into a developed microfloc system having a cationic overcharge.

71. (Four times amended) The sludge composition of claim 67, wherein said polymeric quaternary ammonium compound comprises a polymeric quaternary ammonium compound having a molecular weight of at least about 5,000,000.

72. (Canceled)

73. (Amended) The method of claim 33, wherein a cationic polyacrylamide is added.

74. (New) A method for dewatering a sludge comprising water and thermophiles, the method comprising:  
adding to the sludge a quaternized polyacrylamide.

75. (New) The method of claim 74, wherein said quaternized polyacrylamide comprises at least one selected from the group consisting of di-allyl di-methyl ammonium chloride and epichlorohydrin di-methyl amine.

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76. (New) The method of claim 74, wherein the concentration of said quaternized polyacrylamide to the percentage of solids in said sludge is in the range of about 50 ppm:1 percent to about 300 ppm:1 percent.

77. (New) The method of claim 74, wherein a cationic polyacrylamide is added.

78. (New) The method of claim 77, wherein said cationic polyacrylamide comprises a cationic polyacrylamide having a molecular weight in the range of about 5,000,000 to about 15,000,000.

79. (New) The method of claim 77, wherein the concentration of said cationic polyacrylamide and said cationic polyacrylamide to the percentage of solids in said sludge is in the range of about 50 ppm:1 percent to about 300 ppm:1 percent.

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**Claim List – Status and Support of Current Amendment Changes**

| <b>Claim</b> | <b>Status</b> | <b>Type</b> | <b>Support of Changes</b>                                                                                                                                                                                                                                                                      |
|--------------|---------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1            | Pending       | Method      | There are no changes in this amendment.                                                                                                                                                                                                                                                        |
| 2            | Pending       | Method      | "variety" has been removed - support is found in the abstract and col. 1 lines 10-17 and col. 5 line 2-8.                                                                                                                                                                                      |
| 3            | Pending       | Method      | "variety" has been removed - support is found in the abstract and col. 1 lines 10-17 and col. 5 line 2-8.                                                                                                                                                                                      |
| 4            | Pending       | Method      | There are no changes in this amendment.                                                                                                                                                                                                                                                        |
| 5            | Pending       | Method      | There are no changes in this amendment.                                                                                                                                                                                                                                                        |
| 6            | Pending       | Method      | There are no changes in this amendment.                                                                                                                                                                                                                                                        |
| 7            | Pending       | Method      | There are no changes in this amendment.                                                                                                                                                                                                                                                        |
| 8            | Pending       | Method      | There are no changes in this amendment.                                                                                                                                                                                                                                                        |
| 9            | Cancelled     | N/A         | N/A                                                                                                                                                                                                                                                                                            |
| 10           | Pending       | Method      | There are no changes in this amendment.                                                                                                                                                                                                                                                        |
| 11           | Original      | Method      | There are no changes in this amendment.                                                                                                                                                                                                                                                        |
| 12           | Pending       | Method      | There are no changes in this amendment.                                                                                                                                                                                                                                                        |
| 13           | Pending       | Method      | There are no changes in this amendment.                                                                                                                                                                                                                                                        |
| 14           | Pending       | Method      | There are no changes in this amendment.                                                                                                                                                                                                                                                        |
| 15           | Pending       | Method      | "comprising" has been replaced by "wherein" – grammatical correctness; "a" has been replaced by "said" – antecedent basis; "primary component" has been replaced by "is added along with" - "being" has been replaced by "are" – support is found in the abstract and in col. 4 lines 51 – 54. |
| 16           | Pending       | Method      | "is used in solution or dry form" is inserted to relate to both polyacrylamide, as well as polymeric quaternary ammonium compound. "one or both of" has been removed - support is found in col. 7 line 49 – col. 9 line 49, along with col. 6 line 49 – 57 and col. 7 line 34 – 37.            |
| 17           | Cancelled     | N/A         | N/A                                                                                                                                                                                                                                                                                            |
| 18           | Cancelled     | N/A         | N/A                                                                                                                                                                                                                                                                                            |
| 19           | Pending       | Method      | "the" is replaced with "said" – grammatical correctness and antecedent basis.                                                                                                                                                                                                                  |
| 20           | Cancelled     | N/A         | N/A                                                                                                                                                                                                                                                                                            |
| 21           | Cancelled     | N/A         | N/A                                                                                                                                                                                                                                                                                            |
| 22           | Pending       | Method      | "the" is replaced with "said" – grammatical correctness and antecedent basis.                                                                                                                                                                                                                  |
| 23           | Cancelled     | N/A         | N/A                                                                                                                                                                                                                                                                                            |
| 24           | Pending       | Method      | "the" is replaced with "said" – grammatical correctness and antecedent basis.                                                                                                                                                                                                                  |
| 25           | Pending       | Method      | "the" is replaced with "said" – grammatical correctness and antecedent basis.                                                                                                                                                                                                                  |

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|    |           |             |                                                                                                                                                                          |
|----|-----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 26 | Pending   | Method      | "variety" has been removed - support is found in the abstract and col. 1 lines 10-17 and col. 5 lines 2-8; "the" is replaced with "said" - grammar and antecedent basis. |
| 27 | Pending   | Method      | "the" is replaced by "said" - grammatical correctness and antecedent basis.                                                                                              |
| 28 | Pending   | Method      | "the" is replaced by "said" - grammatical correctness and antecedent basis.                                                                                              |
| 29 | Canceled  | N/A         | N/A                                                                                                                                                                      |
| 30 | Canceled  | N/A         | N/A                                                                                                                                                                      |
| 31 | Canceled  | N/A         | N/A                                                                                                                                                                      |
| 32 | Canceled  | N/A         | N/A                                                                                                                                                                      |
| 33 | Pending   | Method      | There are no changes in this amendment.                                                                                                                                  |
| 34 | Pending   | Method      | "the" is replaced by "said" - grammatical correctness and antecedent basis.                                                                                              |
| 35 | Pending   | Method      | "the" is replaced by "said" - grammatical correctness and antecedent basis.                                                                                              |
| 36 | Pending   | Method      | "variety" has been removed - support is found in the abstract and col. 1 lines 10-17 and col. 5 lines 2-8; "the" is replaced with "said" - grammar and antecedent basis. |
| 37 | Pending   | Method      | "the" is replaced by "said" - grammatical correctness and antecedent basis.                                                                                              |
| 38 | Pending   | Method      | "the" is replaced by "said" - grammatical correctness and antecedent basis.                                                                                              |
| 39 | Cancelled | N/A         | N/A                                                                                                                                                                      |
| 40 | Pending   | Method      | "the" is replaced by "said" - grammatical correctness and antecedent basis.                                                                                              |
| 41 | Pending   | Composition | There are no changes in this amendment.                                                                                                                                  |
| 42 | Cancelled | N/A         | N/A                                                                                                                                                                      |
| 43 | Cancelled | N/A         | N/A                                                                                                                                                                      |
| 44 | Pending   | Composition | "variety" has been removed - support is found in the abstract and col. 1 lines 10-17 and col. 5 lines 2-8; "the" is replaced with "said" - grammar and antecedent basis. |
| 45 | Pending   | Composition | "the" is replaced by "said" - grammatical correctness and antecedent basis.                                                                                              |
| 46 | Pending   | Composition | "the" is replaced by "said" - grammatical correctness and antecedent basis.                                                                                              |
| 47 | Pending   | Composition | "the" is replaced by "said" - grammatical correctness and antecedent basis.                                                                                              |
| 48 | Pending   | Composition | There are no changes in this amendment.                                                                                                                                  |
| 49 | Cancelled | N/A         | N/A                                                                                                                                                                      |
| 50 | Cancelled | N/A         | N/A                                                                                                                                                                      |
| 51 | Pending   | Composition | "variety" has been removed - support is found in the abstract and col. 1 lines 10-17 and col. 5 lines 2-8; "the" is replaced with "said" - grammar and antecedent basis. |

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|    |           |             |                                                                                                                                                                                     |
|----|-----------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 52 | Pending   | Composition | "the" is replaced by "said" – grammatical correctness and antecedent basis.                                                                                                         |
| 53 | Pending   | Composition | "the" is replaced by "said" – grammatical correctness and antecedent basis.                                                                                                         |
| 54 | Pending   | Composition | "the" is replaced by "said" – grammatical correctness and antecedent basis.                                                                                                         |
| 55 | Pending   | Composition | There are no changes in this amendment.                                                                                                                                             |
| 56 | Cancelled | N/A         | N/A                                                                                                                                                                                 |
| 57 | Cancelled | N/A         | N/A                                                                                                                                                                                 |
| 58 | Pending   | Composition | "variety" has been removed - support is found in the abstract and col. 1 lines 10-17 and col. 5 lines 2-8; "the" is replaced with "said" – grammar and antecedent basis.            |
| 59 | Pending   | Composition | "the" is replaced by "said" – grammatical correctness and antecedent basis.                                                                                                         |
| 60 | Pending   | Composition | "the" is replaced by "said" – grammatical correctness and antecedent basis.                                                                                                         |
| 61 | Pending   | Composition | "the" is replaced by "said" – grammatical correctness and antecedent basis.                                                                                                         |
| 62 | Cancelled | N/A         | N/A                                                                                                                                                                                 |
| 63 | Cancelled | N/A         | N/A                                                                                                                                                                                 |
| 64 | Cancelled | N/A         | N/A                                                                                                                                                                                 |
| 65 | Cancelled | N/A         | N/A                                                                                                                                                                                 |
| 66 | Cancelled | N/A         | N/A                                                                                                                                                                                 |
| 67 | Pending   | Composition | There are no changes in this amendment.                                                                                                                                             |
| 68 | Pending   | Composition | "variety" has been removed - support is found in the abstract and col. 1 lines 10-17 and col. 5 lines 2-8; "the" is replaced with "said" – grammar and antecedent basis.            |
| 69 | Pending   | Composition | "the" is replaced by "said" – grammatical correctness and antecedent basis; "for" is replaced by "to" – typographical error and grammatical correctness.                            |
| 70 | Pending   | Composition | "the" is replaced by "said" – grammatical correctness and antecedent basis.                                                                                                         |
| 71 | Pending   | Composition | "In the range" has been removed - grammatical correctness; "the" is replaced by "said" – grammatical correctness and antecedent basis; support is found in col. col. 5 lines 52-63. |
| 72 | Canceled  | N/A         | N/A                                                                                                                                                                                 |
| 73 | Pending   | Method      | There are no changes in this amendment.                                                                                                                                             |
| 74 | Pending   | Method      | Support is found in the specification col. 6 line 44 to col. 7 line 38, along with Examples 4, 5, 6 and 7.                                                                          |
| 75 | Pending   | Method      | Support is found in the specification col. 6 line 44 to col. 7 line 38, along with Examples 4, 5, 6 and 7.                                                                          |
| 76 | Pending   | Method      | Support is found in the specification col. 6 line 44 to col. 7 line 38, along with Examples 4, 5, 6 and 7.                                                                          |
| 77 | Pending   | Method      | Support is found in the specification col. 6 line 44 to col. 7 line 38, along with Examples 4, 5, 6 and 7.                                                                          |

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|    |         |        |                                                                                                            |
|----|---------|--------|------------------------------------------------------------------------------------------------------------|
| 78 | Pending | Method | Support is found in the specification col. 6 line 44 to col. 7 line 38, along with Examples 4, 5, 6 and 7. |
| 79 | Pending | Method | Support is found in the specification col. 6 line 44 to col. 7 line 38, along with Examples 4, 5, 6 and 7. |

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**Examiner's Remarks, Objections and Rejections with Applicant's Response****"Allyl"/DADMAC Family Rejections**

Claims 2, 3, 26, 30, 36, 44, 51, 58, 68 are rejected under 35 USC Sec. 112 (2<sup>nd</sup>) for failing to particularly point out and distinctly claim the invention. ...

**Applicant's Response**

Applicant understands the Examiner's rejection. To address the Examiner's rejection under Section 112 (2<sup>nd</sup>) paragraphs, Applicant has amended Claims 2, 3, 26, 36, 44, 51, 58 and 68 to read as follows:

"2. The method for dewatering biological sludge according to claim 1, wherein the polymeric quaternary ammonium compound is di-allyl di-methyl ammonium chloride (DADMAC).

3. The method for dewatering biological sludge according to claim 1, wherein the polymeric quaternary ammonium compound is epichlorohydrin di-methyl amine (Epi-DMA).

26. The method of claim 22, wherein said polymeric quaternary ammonium compound comprises at least one compound selected from the group consisting of di-allyl di-methyl ammonium chloride and epichlorohydrin di-methyl amine.

36. The method of claim 35, wherein said polymeric quaternary ammonium compound comprises at least one compound selected from the group consisting of di-allyl di-methyl ammonium chloride and epichlorohydrin di-methyl amine.

44. The sludge composition of claim 41, wherein said polymeric quaternary ammonium compound comprises at least one compound selected from the group consisting of di-allyl di-methyl ammonium chloride and epichlorohydrin di-methyl amine.

51. The sludge composition of claim 48, wherein said polymeric quaternary ammonium compound comprises at least one compound selected

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from the group consisting of di-allyl di-methyl ammonium chloride and epichlorohydrin di-methyl amine.

58. The sludge composition of claim 55, wherein said polymeric quaternary ammonium compound comprises at least one compound selected from the group consisting of di-allyl di-methyl ammonium chloride and epichlorohydrin di-methyl amine.

68. The sludge composition of claim 67, wherein said polymeric ammonium compound comprises at least one compound selected from the group consisting of di-allyl di-methyl ammonium chloride and epichlorohydrin di-methyl amine."

In all cases the term "DADMAC variety" has been replaced with the term "di-allyl di-methyl ammonium chloride;" and the term "Epi-DMA variety" has been replaced with the term "epichlorohydrin di-methyl amine." As such, Applicant respectfully submits that the claim amendments favorably overcome the Examiner's rejection under 35 USC section 112, second paragraph.

Applicant appreciates the Examiner's recognition that support clearly exists for the "variety phraseology" and that "there exist many variants of the polyquaternary amine moiety." As such, for purposes of exemplifying representative polymeric quaternary ammonium compounds, Applicant has amended claims 2 and 3 to reflect DADMAC and Epi-DMA, respectively, and has amended claims 26, 30, 36, 44, 51, 58 and 68 to reflect the group consisting of: DADMAC, Epi-DMA and quaternized polyacrylamide. Therefore, Applicant sees an area of agreement with the Examiner. And, in an effort to reach that agreement, claims 2, 3, 26, 36, 44, 51, 58 and 68 are so amended. Applicant respectfully requests an allowance of claims 2, 3, 26, 36, 44, 51, 58 and 68 as amended herein.

**"One or both...solution, emulsion, or in dry form" - Sec. 112(2'nd) Paragraph**

Claim 16 is rejected under 35 USC Sec. 112(2'nd) for failing to particularly point out and distinctly claims the invention. ...



**09/733,392 & 90/005,710****10/26/05 RCE****Sec. 112 (1'st para) – lack of written description**

Claim 16 is rejected under 35 USC Sec. 112 (first paragraph) for failure of the application to describe the claimed subject matter. ...

**Applicant's Response**

Applicant appreciates and understands the Examiner's rejection. Claim 16 has been amended to read:

16. The method for dewatering biological sludge according to claim 1, wherein said polyacrylamide and said polymeric quaternary ammonium compound is added in solution form.

Based on the foregoing, Applicant respectfully submits that the Examiner's rejections of claim 16 under 35 USC section 112, first paragraph and second paragraph, have been respectfully traversed. As such, Applicant requests allowance of claim 16 as amended herein.

**"wherein the polyacrylamide is anionic instead of cationic"**

Claim 29 is rejected under 35 USC Sec. 112(2<sup>nd</sup> paragraph) for failing to particularly point out and distinctly claim the invention. ...

**Applicant's Response**

Applicant understands and appreciates the Examiner's rejection. Claim 29 has been canceled. In addition, claims 30, 31 and 32 have been canceled, as those claims depend upon claim 29.

**"wherein the polyacrylamide is cationic or anionic"**

Claim 72 is rejected under 35 USC Sec. 112(2<sup>nd</sup> paragraph) for failing to particularly point out and distinctly claim the invention. ...

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Applicant understands and appreciates the Examiner's rejection. Applicant has canceled claim 72.

**Other Sec. 112, 2<sup>nd</sup> Paragraph rejections**

Claim 15 is rejected under 35 USC Sec. 112(2<sup>nd</sup>) for failing to particularly point out and distinctly claim the invention. ...

**Applicant's Responses**

Applicant understands and appreciates the Examiner's rejection. Applicant has amended claim 15 to state:

"15. The method for dewatering biological sludge according to claim 1, wherein:

said polymeric quaternary ammonium compound is added along with a cationic polyacrylamide; and

said polymeric quaternary ammonium compound and cationic polyacrylamide are present to enable dewatering of the biological sludge."

As Applicant has amended claim 15 above, Applicant has respectfully traversed the Examiner's rejection. Applicant respectfully requests an allowance of claim 15 as amended herein.

Applicant also noted the Examiner's suggestion to replace "a" with "said" in claim 15 of the office action. To provide proper antecedent basis, grammatical correctness and comply with direction provided by the Examiner, Applicant has replaced "the" with "said" in claims 19 to 73 when there is an antecedent basis.

**Claim Objection**

Objection is made to Claim 71 because of the following informalities: Claim 71 recites the phrase, "in the range of at least about 5,000,000." A range is defined by a lower and an upper endpoint. The claim recites a lower endpoint, i.e., "about 5,000,000," but not an upper

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endpoint. Appropriate correction is required. It is suggested that the phrase "in the range" be deleted from claim 71.

**Applicant's Responses**

Applicant understands and appreciates the Examiner's rejection. Applicant has amended claim 71 to state:

"71. The sludge composition of claim 67, wherein said polymeric quaternary ammonium compound comprises a polymeric quaternary ammonium compound having a molecular weight of at least about 5,000,000."

As Applicant has amended claim 71 above, Applicant has respectfully traversed the Examiner's rejection. Applicant respectfully requests an allowance of claim 71 as amended herein.

**Examiner's After Final Advisory Action (After Final Amendment Not Entered)**

**3. (a) i.** Whether claim 22, broadened by deletion of the word "cationic"...

**Applicant's Response**

Applicant has removed the term "cationic" from claim 22.

**3. (a) ii.** Whether "quaternized polyacrylamide" is a "polymeric quaternary ammonium compound"...

**Applicant's Response**

While applicant can simply remove "quaternized polyacrylamide" from claims 26, 30, 36, 44, 51, 58 and 68, the question posed by the Examiner creates the question of whether the term "polymeric quaternary amine" will provide coverage for a "quaternized polyacrylamide"; as, this is an important aspect of the instant invention in relation to Methods 3 and 4 of the specification; this is while Applicant has been looking to claim 33 as providing coverage for Methods 3 and 4. However, the Examiner's

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observation does correctly present that the Applicant does not In the specification define a relationship between the terms "polymeric quaternary amine" and "quaternized polyacrylamide"; this is even though it is thoroughly believed by Applicant that both the common English usage of these terms and the industry use of these terms would find "polymeric quaternary ammonium compound" to be a genus including "quaternized polyacrylamide."

In an effort to respond to the Examiner's question and to clearly provide Applicant coverage for Methods 3 and 4 in the specification, Applicant is adding new claims, claims 74 to 79. Claims 74 to 79 have support in the specification from col. 6 line 44 to col. 7 line 38, along with Examples 4, 5, 6 and 7.

**3. (a) iii.** Whether "ammine" is an acceptable...

#### **Applicant's Response**

Oops! Applicant apologizes to the Examiner for creating such a typo and copying said typo to all related claims. Applicant has correctly spelled "amine" as "amine."

**3. (b).** Proposed claim 16 raises new matter. The new matter issue is whether there is 35 U.S.C. Sec. 112, first paragraph, support for adding polyacrylamide in "emulsion form."...

#### **Applicant's Response**

Upon further review by Applicant, claim 16 depends on claim 1, wherein claim 16 claims in addition to claim 1 a "form" for the addition of a polyacrylamide and a "form" for the addition of a polymeric quaternary amine. This is while the "form" of "addition" presented by Applicant in the specification was as "solution." This solution "form" of "addition", as presented in the specification, is regardless of the "form" of the "delivered" polymer, be that "form" dry, emulsion or solution. Therefore, to be fully enabling, claim 16 has been reworded to state:

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"16. The method for dewatering biological sludge according to claim 1, wherein said polyacrylamide and said polymeric quaternary ammonium compound is added in solution form."

7. Claim(s) Patented or confirmed: 1, 4-8, 10-14, 19, 22, 24, 25, 27, 28, 33-35, 37, 38, 40, 41, 45-48, 52-55, 59-61, 67, 69-70, 73.

**Applicant Comment**

Applicant appreciates the work of the Examiner in this proceeding and the confirmed claims, thus far, in this proceeding.

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**Conclusion**

Applicant respectfully requests entry of this RCE, along with favorable reconsideration of the pending claims. This amendment places the claims in a condition for allowance. The amendments to the claims do not raise any new matter issues and no additional searching is required. Additionally, Applicant requests that in view of this fact, the amendment be entered, and after due consideration of the facts presented herein, the claims be allowed and a certificate be issued.

To facilitate the resolution of any issues or questions presented by this paper, Applicant respectfully requests that the Examiner directly contact the undersigned by phone to further the discussion, reconsideration and allowance of the claims.

Respectfully submitted,

Date: December 16, 2005  
(Originally mailed to and received  
by USPTO on 10/26/05 and 11/28/05)



Richard A. Haase, Pro Se Applicant

Richard A. Haase  
4402 Ringrose Drive  
Missouri City, Texas 77459

Telephone: 281.261.9543  
Facsimile: 281.261.6505  
richard.haase@clearvalue.com

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

## COMBINED PROCEEDING

For U.S. Patent No. 5,846,435

### In the Re-issue application of Haase

Serial No. 09/733,392

Filed December 7, 2000

### In the Re-exam application of Haase

Control No. 90/005,710

**Filed April 24, 2000**

**Title: Method for Dewatering Sludge**

**EXAMINER: Chester Barry**

**Group Art Unit 1724**

## Patent Owners Docket

**for Re-issue: 27410/002RI**

**for Re-Exam: 27410/002RX**

### 3'rd Party Requester's Docket:

RE-US 5846435

## Mail Stop RCE

**The Honorable Commissioner for Patent and Trademarks**

USPTO

P.O. Box 1450

Alexandria, VA 22313-1450

**By facsimile 571.273.8300**

# TRANSMITTAL LETTER

**Enclosed for filing in the above-identified patent application is:**


1. Transmittal Letter (2 pages); and
2. Form US PTO 2038 in order to process a credit card payment of \$395 as the required fee for filing an RCE, small entity status. (1 page);

## Certificate of Transmission

I hereby certify that this correspondence and all documents referred to as being enclosed or attached is being sent by facsimile to: 571-273-8300, while being addressed to Mail Stop RCE, The Honorable Commissioner for Patents and Trademarks, USPTO, P.O. Box 1450, Alexandria, VA 22313-1450.

**December 16, 2005**

**Date of Transmission**

  
Richard A. Haase

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**Certificate of Mailing to Opposing Council**

I hereby certify that this correspondence and all documents referred to as being enclosed or attached is being sent by US First Class Mail to: Mrs. Joann Villamizar, Ciba Specialty Chemicals Corporation, 540 White Plains Road, Tarrytown, New York 10591

December 16, 2005

Date of Mailing



Richard A. Haase

**Respectfully submitted,**



Richard A. Haase, Pro Se' Applicant

**Date: December 16, 2005**

Richard A. Haase  
4402 Ringrose Drive  
Missouri City, Texas 77459

Telephone: 281-261-9543  
Facsimile: 281-261-6505  
Richard.haase@dearvalue.com



PTO-2038 (12-2005)

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| State/Province: Texas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                 | Zip/Postal Code: 77496-8856            |                                    |
| Country: USA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                 |                                        |                                    |
| Daytime Phone #: 281-261-9543                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                 | Fax #: 281-261-6505                    |                                    |
| Request and Payment Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                 |                                        |                                    |
| Description of Request and Payment Information:<br>RCE Fee, small entity status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                 |                                        |                                    |
| <input checked="" type="checkbox"/> Patent Fee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/> Patent Maintenance Fee | <input type="checkbox"/> Trademark Fee | <input type="checkbox"/> Other Fee |
| Application No.<br>09/733,392                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Application No.                                 | Application No.                        | IDON Customer No.                  |
| Patent No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Patent No.                                      | Registration No.                       |                                    |
| Attorney Docket No.<br>2740/<br>002 RI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                 | Identify or Describe Mark              |                                    |

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## Fax Call Report

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|-----|------------|-----------|------|----------------|----------|-------|--------|
| 43  | 12/16/2005 | 8:55:47AM | Send | 15712738300    | 1:19     | 3     | OK     |

No fax-back from USPTO.

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| PAY TO THE ORDER OF <i>The Assistant Commissioners for Patents</i>                |  | DATE <i>11/23/01</i> |                      |
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Fax Number: 281-261-6505

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Signature of Recipient:

Delivery Section

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*Subrey R. Dyar*

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| Type In                  | AM                       | Type Out            | PM                       |
| Weight                   | 1.00                     | Weight              | 1.00                     |
| No Delivery              | <input type="checkbox"/> | No Delivery         | <input type="checkbox"/> |
| Washed                   | <input type="checkbox"/> | Washed              | <input type="checkbox"/> |
| Return Receipt Fee       | \$3.45                   | Return Receipt Fee  | \$3.45                   |
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